BRITISH COLUMBIA

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Dear Mr. O'Connor:

Thank you for your September 29, 2017, letter with detailed comments on the draft Application Information Requirements (DAIR) for the proposed Crown Mountain Coking Coal (Crown Mountain) Project. We have summarized your comments below, and provided the following responses to your comments. To assist in your review of our responses, I have attached the most recent draft of the DAIR for your reference, as changes have been made to the version reviewed by your office. These changes were based on comments received from the Working Group. Please note that the Environmental Assessment Office (EAO) anticipates that there will be some minor changes to the DAIR prior to the finalized version being sent to the Working Group in the coming weeks.

EPA Comment: The EPA recommends that the DAIR include an assessment of downstream impacts in the U.S. portions of the watershed to surface water, aquatic health and other aquatic "Valued Components" such as fish and water bird species, including but not limited to, Lake Koocanusa and the Kootenai River.

NWP Coal Canada Ltd. (NWP) has considered initial predictions for potential effects to water quality to establish the study boundaries for the environmental assessment (EA). The current local study area (LSA) where direct and indirect effects from the project may occur extends to just beyond the District of Elkford. The regional study area (RSA)

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matches the area established by the Elk Valley Water Quality Plan (EVWQP) and will be used as a cumulative effects boundary. NWP currently predicts no effects at the Koocanusa Reservoir. The EA is designed to substantiate these predictions through a robust, scientific assessment. The EAO is satisfied that our methodology will identify and assess any potential transboundary effects at the US Border. Study area boundaries can be adjusted based on modeling predictions. The detailed water quality information will be provided by NWP at the EA Application stage. As a member of the Crown Mountain Working Group, the US EPA will have the opportunity to review the detailed modelling methods and results.

EPA Comment: The Application should describe how the proponent will comply with any potential site-specific objectives applicable in B.C. developed by the Lake Koocanusa Monitoring and Research Working Group (LKMRWG), potentially including a selenium water column target that, while yet undetermined, may be less than 2 µg/L in the reservoir. The EPA recommends that the Application discusses whether the proponent will participate in the LKMRWG.

As you are aware, the EVWQP was developed by Teck Coal Limited (Teck) in response to a Ministerial Order issued in April 2013 under the *Environmental Management Act* (EMA). The BC Ministry of Environment and Climate Change Strategy (ENV) has clarified that the EVWQP applies to all water-related decisions made under EMA within the designated area defined as the Elk Valley, including the Canadian portion of Koocanusa Reservoir. NWP will be required to meet any water quality targets established under the LKRMWG or the EVWQP. On January 12, 2016, ENV advised NWP that NWP will need to be prepared to implement changes in a timely manner that would achieve a new long-term standard for Selenium should a new target be determined for the Koocanusa Reservoir (please see Appendix A).

NWP has requested the opportunity to participate in the LKMRWG and is waiting for direction from the group as to the level of participation it would like NWP to have.

EPA Comment: The EPA recommends that the Application describe the systems and technologies that will be used to meet water quality targets.

- **In particular, we note the absence of discussion regarding active treatment to reduce selenium and nitrogen loadings from seepage from the waste rock pile. The application should discuss the logistics and technical feasibility of collecting, pumping, and treating contaminated seepage and runoff. For example, would there need to be a water treatment plant located downstream of the waste rock impoundment in West Alexander Creek?**
- **Will the project proponent need to achieve the water quality targets immediately or will there be a compliance schedule such as for the Teck Coal mines?**

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- **Where will the water quality targets apply? Do the water quality targets apply in the smaller streams located around the proposed mine such as Grave and Alexander Creeks?**
- **The Application should also describe the process for implementing revised site-specific water quality criteria which may change during the application process or later during mining operations.**

In changes to the most recent version of the DAIR, Section 4.1.4.1.4 now states that the assessment of Project effects on water quality will "Demonstrate how Best Achievable Control Technology (BACT), contingency measures and adaptive management will be used". Section 4.2.2.5 of the DAIR states that the Application will also identify measures to avoid, manage or otherwise mitigate (including potential water treatment) potential adverse effects to aquatic resources and aquatic health for each phase of the Project (i.e., construction, operations, closure, and post-closure). For example, the Application will describe the impacts of Project operations (e.g., plant operation, transportation, water supply) on groundwater and surface water quantity and quality, as well as contingency plans for accidents and potential conditions that require shutting down of the site.

And finally, updates to the DAIR have addressed seepage water quality. Section 4.1.4.1.2 now includes requirements for proposed operation monitoring plans and contingency plans for seepage water quality management if waste rock segregation is proposed.

EPA Comment: The DAIR and project description anticipate a straightforward mine closure without any provisions for long-term water treatment, long-term maintenance of the low permeability soil layer to reduce seepage through the waste rock disposal facility, or long-term diversion of drainage away from the waste rock storage areas. The EPA recommends that the Application address long-term requirements to ensure that water quality and aquatic life are protected. The EPA recommends that the anticipated Valued Component interactions with project components or activities described in tables 10, 11, 18 (Aquatic Health) include information on maintaining the components of the project that protect water quality and aquatic life, such as water treatment, and maintaining the recontouring and revegetation of the disturbed area. For example, what would happen if an erosion channel developed through the cap in the waste rock management area?

Section 1.1.2 of the DAIR has been updated and now requires the following: "If drainage collection and treatment is proposed as an alternative strategy to waste rock management, the Application will include a conceptual design for this alternative and outline the following information:

- including the location of the collection and treatment; characterization of influent and effluents;

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- treatment and performance processes and their anticipated effectiveness,
- relevant monitoring plans, and anticipated capital and operating costs;
- demonstration of the effectiveness of the drainage collection and conveyance system;
- predicted reagent use; assessed performance under the expected range of flow and climatic conditions;
- relevant mitigation and monitoring plans (which will include physical and geochemical characteristics of wastes and long-term geochemical stability); and
- anticipated capital and operating costs."

With respect to maintaining recontouring and revegetation of the disturbed area, NWP will be required to prepare a draft Reclamation Plan as part of its EA application, and further reclamation details including end land use will be required as part of the *Mines Act* permitting process. The BC reclamation standards include long-term erosion control of post-closure landforms. To meet these standards, The Ministry of Energy, Mines and Petroleum Resources (EMPR) requires proponents to evaluate runoff and erosion potential and consider these aspects, in addition to other reclamation standards such as land capability, land use, geotechnical and geochemical stability, in the designs for post-closure landforms. Post-closure effectiveness monitoring will also be required for as long as needed to ensure that all of the reclamation requirements are met, and maintenance would need to be implemented if the monitoring results indicated that it was required. For the example, the cover design should be implemented in a manner that prevents erosion, however, if erosion were to occur, the cover would require repair. The reclamation security would consider these types of post-closure requirements to ensure that closure plans are effective.

EPA Comment: The DAIR (Section 1.1) indicates that the Application will include a description of the "estimated costs for decommissioning/closure/management/reclamation." We recommend that the Application disclose the financial arrangements such as bonding or insurance policies to ensure that mine can be successfully closed and reclaimed if the proponent becomes insolvent or if the mine temporary closes, in order to ensure that potential transboundary water quality impacts can be managed into the future.

Details regarding reclamation bonding will be required as part of the *Mines Act* permitting process should the project obtain an EA Certificate.

EPA Comment: The DAIR (Section 1.1.3) lists the information that would be included in the Application if an impoundment is proposed. If an impoundment is proposed, we recommend that a failure modes effects analysis (FMEA) be conducted on the impoundment embankment design to assess potential impacts to water quality.

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The Project Description does not include an impoundment. The Canadian Dam Association defines three broad types of failure mode: overtopping, structural collapse, and contaminated seepage. If a mine proposes a tailings impoundment, EMPR requires a "dam breach and inundation study", which captures the impact of a particular failure mode (collapse), and which is the basis for consequence classification. Risk of overtopping and contaminated seepage failure modes must be quantified and mitigated as a part of the design process. Typically this is adequate for EA and permitting, and a comprehensive FMEA is not required.

If a site is especially complex, EMPR may require an FMEA, but this is determined on a site specific basis.

EPA Comment: The DAIR (Section 1.3) lists the alternatives that will be considered in the Application. We recommend that water treatment alternatives be evaluated due to the unproven effectiveness of the waste rock layering approach.

A new bullet has been added to Section 1.1.2 that notes if drainage collection and treatment is proposed as an alternative strategy to waste rock management, the Application will include a conceptual design for this alternative, including the location of the collection and treatment, characterization of influent and effluents, treatment and performance processes and their anticipated effectiveness, relevant monitoring plants, and anticipated capital and operating costs.

EPA Comment: The EPA recommends that the proponent establish monitoring stations within the reservoir, including at the international border. This monitoring should be coordinated with other proponents in the Elk Valley, the B.C. Ministry of Environment, and the Montana Department of Environmental Quality.

The EAO accepts the Elk Valley Area Based Management Plan (ABMP) as the cumulative effects assessment for surface water quality, aquatic ecosystem health, human health and groundwater quality in the Elk Valley. The ABMP contains specifications applicable to all future coal operations in the Elk Valley watershed including the proposed Crown Mountain Project. These include:

- short, medium and long-term targets for selenium, cadmium, nitrate and sulphate in water and for the reduction of calcite;
- an adaptive management approach to ensure that the plan evolves with monitoring information, outcomes of research and development, and advances in science and technology, and
- ongoing monitoring to assess water quality and aquatic health during the implementation of the plan to confirm objectives are met.

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The ABMP covers the entire Elk Valley watershed, including the Canadian portion of Koocanusa Reservoir. Under the Valley-wide permit, ENV requires Teck to monitor within the Koocanusa Reservoir close to the international border. The EAO anticipates that this will be the minimum requirement for non-Teck proponents in the future. ENV will also require coordinated water quality monitoring for all proponents

EPA Comment: The EPA recommends adding the Confederated Salish and Kootenai Tribes (CSKT) and the Kootenai Tribe of Idaho (KTOI) to the list of Aboriginal groups that will be discussed in the Aboriginal Consultation section of the Application. The Consultation Plan should include the states of Montana and Idaho as well as downstream local communities in the U.S. such as Libby and Eureka, Montana. EPA recommends that the proponent hold future public meetings on the project in the U.S.

As you are aware, the EAO has entered into a Memorandum of Understanding with the State of Montana (2010 *Memorandum of Understanding and Cooperation on Environmental Protection, Climate Action and Energy between the Government of BC and the State of Montana*), which identifies that one or more representatives from state, federal and tribal governmental agencies, as appropriate, will be invited to participate in Working Groups established for its EAs, including CSKT. As follow up to a letter sent regarding the Crown Mountain EA in October 2014, the EAO sent a letter to CSKT in October 2017 with an update on the Crown Mountain Project and an offer to participate in the Working Group. There has been no response to these letters from the EAO.

As direct or cumulative effects from Crown Mountain are not anticipated in the State of Idaho, the EAO welcomes further discussion with the US EPA on what the specific interests of KTOI may be in relation to the Crown Mountain Project.

Thank you again for your comments. We would be happy to set up a meeting between the US EPA, the EAO and other provincial permitting agencies to discuss any concerns, and outline the future steps of the EA and permitting processes. Please contact Alex Denis, Project Assessment Officer if such a meeting would be of interest to you, she can be reached at +1 778 698-9298 or Alex.Denis@gov.bc.ca . Please do not hesitate to contact me at +1 250 371-3710 or Terry.Pratt@gov.bc.ca if you have any questions.

Yours truly,

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Attachments: 2

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